

FILED 03/26/03

1. A method for generating a schedule that is filled with a plurality of events,  
comprising:  
defining a framework to serve as the schedule and to be populated with the plurality  
of events, the framework to define periods of time and days to be populated;  
5 inserting at least one immutable event selected from the plurality of events within  
the framework;  
populating the framework with the remaining plurality of events;  
determining whether selected of the remaining plurality of events can populate the  
framework without conflict within the periods of time and days to be  
10 populated;  
adjusting a time value for a given event that cannot fit within the framework at a  
selected time and day period until the given event fits within the framework;  
determining delays allowed between selected of the plurality of events;  
allocating the allowed delays to optimize the schedule;  
15 evaluating selected of the plurality of events having preferred time specifications;  
allocating the selected plurality of events based on their preferred time  
specifications;  
calculating an optimization value based on preferred time conflicts, delay conflicts,  
or time or day period conflicts among the plurality of events;  
20 determining whether the optimization value achieves a threshold best-solution  
value; and

performing event swapping of the plurality of events to improve the optimization value until achieving the best-solution threshold value.

2. The method according to claim 1 further comprising the steps of:

5 determining relationships between events placed within the framework;  
reevaluating the optimization value based on the event relationships.

3. The method according to claim 1 further comprising determining the optimization value based on events that have a frequency greater than one.

4. The method according to claim 1 further comprising determining the optimization value based on events that are to be excluded.

5. A computerized system for optimizing a schedule that is filled with a plurality of events, comprising:

means for defining a framework to serve as the schedule and to populate the framework with the plurality of events, selected of the plurality of events being immutable; and

means for determining an optimization value based on the placement of the plurality of events after placement of the immutable events and for determining whether the optimization value achieves a threshold best-solution value.

6. The scheduling system according to claim 5 wherein the framework defining means can also perform event swapping to improve the optimization value.

7. The scheduling system according to claim 5 wherein the framework defining means determines whether selected of the remaining plurality of events can populate the framework without conflict within the periods of time and days to be populated.

8. The scheduling system according to claim 5 wherein the framework defining means adjusts a time value for a given event that cannot fit within the framework at a selected time and day period until the given event fits within the framework.

9. The scheduling system according to claim 5 wherein the framework defining means determines delays allowed between selected of the plurality of events and allocates the allowed delays to optimize the schedule.

5 10. The scheduling system according to claim 5 wherein the framework defining means evaluates selected of the plurality of events having preferred time specifications and allocates the selected plurality of events based on their preferred time specifications.

10 11. The scheduling system according to claim 5 wherein the optimization determination means calculates the optimization value based on preferred time conflicts, delay conflicts, or time or day period conflicts among the plurality of events populated within the framework or excluded therefrom.

15 12. The scheduling system according to claim 5 wherein the framework defining means determines relationships between events placed within the framework and the optimization determination means reevaluates the optimization value based on the event relationships.

20

13. A computer program product for optimizing a schedule filled with a plurality of events, said computer program comprising code that directs a computer to:

defining a framework to serve as the schedule and to be populated with the plurality of events, the framework to define periods of time and days to be populated;

5 inserting at least one immutable event selected from the plurality of events within the framework;

populating the framework with the remaining plurality of events;

determining whether selected of the remaining plurality of events can populate the framework without conflict within the periods of time and days to be

10 populated;

adjusting a time value for a given event that cannot fit within the framework at a selected time and day period until the given event fits within the framework;

determining delays allowed between selected of the plurality of events;

allocating the allowed delays to optimize the schedule;

15 evaluating selected of the plurality of events having preferred time specifications;

allocating the selected plurality of events based on their preferred time specifications;

calculating an optimization value based on preferred time conflicts, delay conflicts, or time or day period conflicts among the plurality of events;

20 determining whether the optimization value achieves a threshold best-solution value; and

performing event swapping of the plurality of events to improve the optimization  
value until achieving the best-solution threshold value.

14. The method according to claim 13, further comprising the steps of:  
5 determining relationships between events placed within the framework;  
reevaluating the optimization value based on the event relationships.

15. The method according to claim 13, further comprising determining the  
optimization value based on events that have a frequency greater than one.

16. The method according to claim 13, further comprising determining the  
optimization value based on events that are to be excluded.